

NOTES ON AN EARLY COLLECTION OF PALEOZOIC
FOSSILS FROM ELLESMERELAND.

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In 1865 Meek¹ described and listed a number of fossils from Ellesmereland. This fauna has frequently been cited by subsequent authors, a typical example being that of Holte-
dahl,² who states (p. 45):

"The fauna collected by Dr. Hayes [sic] on the west shore of Kennedy Channel, containing the following forms according to identifications made by Meek: *Zaphrentis haysii* Meek, *Syringopora*, *Favosites*, *Strophomena rhomboidalis*, *Strophodonta headleyana* Hall (?), *Stroph. becki* Hall (?), *Rhynchonella* sp., *Coelospira concava* Hall, *Spirifer perlamellosus* Hall, *Loxonema* (?) *kanei* Meek, *Orthoceras* sp., *Iliaenus*, is—as Meek emphasizes—of Lower Helderberg age but is without doubt younger than the faunas of Series B. After the list 'quoted it must be correlated with New Scotland and Becraft and therefore corresponds probably with the lower part of Schei's Series D."

This collection, studied by Meek, is preserved in the United States National Museum. On examining it I was surprised to find that it consisted of two distinct collections, one of Ordovician and the other of Devonian age. Owing to the considerable interest now taken in the stratigraphy of the far north it seems advisable to make a statement in regard to these collections in order that further confusion may be avoided. The specimens fall into two lots from different localities.

One lot is stated to be from "Cape Frazier, northeast Ellesmereland, Latitude 80°-81° N., Longitude 70° W." The fauna is as follows:

<i>Streptelasma haysii</i> (Meek)	= <i>Zaphrentis haysii</i> Meek.
<i>Bumastus</i> sp.	= <i>Iliaenus</i> of Meek.
<i>Orthis</i> sp.	
<i>Loxonema kanei</i>	= <i>Loxonema kanei</i> Meek.

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¹ Meek, F. B., Preliminary notice of a small collection of fossils found by Dr. Hays, on the west shore of Kennedy Channel, at the highest northern localities ever explored, this Journal, (2), vol. 40, pp. 31-34, 1865.

² Holte-dahl, Olaf, On the fossil faunas from Per Schei's Series B in South Western Ellesmereland, Report of the Second Norwegian Arctic Expedition in the "Fram" 1898-1902, No. 32, 1914.

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Of this group the *Streptelasma haysii* (Meek) permits fairly close correlation with the Ordovician of continental America. It is a characteristic form with a subtriangular cross section that is very close to or identical with a *Streptelasma* in the lower part of the Bighorn dolomite of Wyoming and is nearly related to *Streptelasma* in contemporaneous deposits of Manitoba. The form represents the inception of an evolutionary line that culminated in the curious *Streptelasma trilobatum* of Whiteaves, which was originally described as *Streptelasma rusticum* var. *trilobatum* and has since been cited by Lambe as *Streptelasma latusculum* var. *trilobatum*. *Streptelasma haysii* (Meek) is of the type of *Streptelasma angulatum* (Billings) from Anticosti, but close comparisons are impossible as Billings' species is stated to be based on immature individuals. *Streptelasma angulatum* moreover comes from a stratigraphically higher horizon, so there is little doubt that the two species are distinct.

The stratigraphic horizon of the widespread Ordovician fauna represented in the first lot may not now accurately be fixed. It correlates at least in part with the fauna described by Schuchert³ from Frobisher Bay, Baffin Land. In the western United States the fauna is certainly of pre-Fernvale Richmond age and is found in the lower part of the Fremont limestone of Colorado and the lower part of the Bighorn dolomite of Wyoming. On the other hand, there is, as one might expect, much in the fauna that resembles the Richmond. Much light could be thrown on the correlation of this widespread and important stratigraphic horizon by careful studies in Ellesmereland. Schuchert in the paper cited above notes the presence of a so-called Utica fauna from different localities in this general region. In a subsequent paper Schuchert⁴ correlates this so-called Utica fauna with the Collingwood of Ontario. The important question is whether this Utica or Collingwood fauna underlies or overlies the fauna with which we are dealing or is contemporaneous. It also remains to be settled whether the fauna described by Schuchert is a unit or represents a mixture of Mohawkian and Richmond fossils not differentiated by collectors in the field. It is suggestive that this same apparent mixture of Mohawkian and Richmond fos-

³ Schuchert, Charles, On the Lower Silurian (Trenton) fauna of Baffin Land, Proc. U. S. Nat. Mus., vol. 22, pp. 143-177, 1900.

⁴ Schuchert, Charles, Notes on Arctic Paleozoic fossils, this Journal, vol. 38, pp. 467-477, Nov., 1914.

sils occurs in collections made in Greenland and the Seward Peninsula, Alaska. Considered solely in relation to its biologic characteristics the fauna seems clearly intermediate between Mohawkian and Richmond. As an open sea Cincinnati fauna, or at least living in a sea free of mud and sand, such fauna differences as appear between the basal Bighorn faunas and the known Cincinnati faunas of the eastern and interior United States might readily be reconciled.

The second lot represented in Meek's material was collected according to the label at "Cape Leidy. Between 80° and 81° N., Long. 70° W." The material is neither abundant nor in a good state of preservation, but the affinities of the species are clear. Meek's determinations are sufficiently accurate. The fauna consists of the following species:

- Spirifer peramellus* Hall.
- Leptaena rhomboidalis* (Wilckens).
- Strophonella* near *headleyana* Hall.
- Stropheodonta becki* Hall.
- Anoplothea concava* Hall.
- Uncinulus* sp.

The corals are not well enough preserved for accurate determination. They are moreover weathered fragments that may not have been collected in place. The collection is evidently of Heldebergian age and may be correlated with the New Scotland.

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